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EXAMINER

AVELLINO, JOSEPH E

ART UNIT	PAPER NUMBER
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2143

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/663,325

Applicant(s)

DATTA, ANINDYA

Examiner

Joseph E. Avellino

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-18 and 21-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-18 and 21-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 11-18 and 21-31 are presented for examination; claims 11, 21 and 26 independent. The Office acknowledges the preliminary amendment to cancel claims 1-10, 19, 20, and the addition of claims 21-31.

Priority

2. Applicant's claim of priority under 35 USC 120 is acknowledged.

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

4. The Office has considered the amendment to claim 12. The rejection is withdrawn.

Double Patenting

5. In light of the Terminal Disclaimer, filed December 15, 2006, the Double Patenting Rejection has been hereby withdrawn.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Treynor (USPN 5,822,759) in view of Wong et al. (USPN 5,909,695) (hereinafter Wong).

6. Referring to claim 11, Treynor discloses a method for caching a content element (i.e. data) (e.g. abstract), the method comprising the steps of:

receiving a content element retrieval request corresponding to the content element (i.e. memory read request) (Figure 2, ref. 102; col. 5, lines 35-45);

sending a retrieval response, in response to the content element retrieval request, the retrieval response indicating whether the content element resides in a component cache (i.e. presence or absence of the requested data in the cache memory is tested in a cache hit step; the cache sends a response to the cache manager program 100 as to whether or not the data is within the cache) (Figure 2, ref. 104; col. 5, lines 38-45);

receiving a content element insertion request corresponding to the content element (i.e. insert_entry) (col. 5, lines 45-55; col. 6, line 36);

determining whether the content element should reside in the component cache (i.e. if the cache is full, deleting the element with the lowest score) (col. 5, lines 55-67);

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removing the content element from the component cache, in response to a determination that the content element should not reside in the component cache (i.e. delete the element with the lowest score) (col. 5, lines 55-67);

associating the content element (i.e. data to be cached) with a content element node (i.e. element in the linked list) and storing the content element (i.e. data 204) and the content element node (i.e. CI 203) in the component cache, in response to a determination that the content element should reside in the component cache (i.e. new list segment 203' is added to the linked list 200 ...followed by actual copying of the requested data into the cache memory 14) (col. 5, lines 55-67), said content element node comprising a next node section containing the node identifiers for all nodes that are reachable in one step from a current node (Figure 7, ref. 218, 219).

Treynor does not explicitly state sending an insertion response indicating whether the content element was successfully inserted into the component cache, as evidenced by lack of any variable receiving any response from the insert_entry(tmp, *item) function call (col. 6, lines 30-35). In analogous art, Wong discloses another method of caching a content element which includes sending an insertion response, in response to the content element insertion request (i.e. insert element into cache) indicating whether the content element was successfully inserted into the component cache (i.e. Insert_cache_entry routine 607 returns to the calling routine with a return code indicating that the operation was/was not successful) (col. 14, lines 10-27). It would have been obvious to one of ordinary skill in the art to combine the teaching of

Wong with Treynor in order to ensure that the content element was successfully verified to be inserted into the cache, and that the program did not hang or crash unexpectedly.

7. Referring to claim 12, Treynor discloses the content element node comprises a node ID (an inherent feature, otherwise the program would have no way to differentiate one content element from the next) (i.e. code phrase 214), a content element (i.e. pointer to data), and a pointer to the next node (i.e. next succeeding segment 203), and a navProb dealing with the probability will request a current content element (i.e. hit count 212, can be construed as a probability that if a user has frequently requested the data object, then it is more likely that the user will request it in the future) (Figure 7; col. 4, lines 30-67; col. 5, lines 13-55).

8. Referring to claim 13, Treynor discloses the determination that the content element should not reside in the cache is made by a content replacement manager (i.e. cache replacement scheme according to the scores created) (col. 4, line 54 to col. 5, line 12).

9. Referring to claim 14, Treynor discloses the replacement manager determines whether the element should reside in the cache by determining whether a second element should replace the content element (i.e. if the cache is full 112, and an element should be inserted in the cache 108, then the last item in the list will be removed 114) (e.g. abstract; col. 6, lines 15-48).

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Treynor in view of Wong in view of Bereznyi et al. (USPN 6,453,404) (hereinafter Bereznyi).

10. Treynor in view of Wong disclose the invention substantively as described in claim 13. Treynor in view of Wong do not specifically disclose the replacement manger determines whether the element should be deleted based on how recently the content element has been referenced. In analogous art, Bereznyi discloses another cache system which replaces elements based on how recently the element has been referenced (i.e. utilize Least Recently Used listings to delete data items from the cache) (col. 39, lines 58-63). It would have been obvious to one of ordinary skill in the art to combine the teaching of Bereznyi with Treynor and Wong in order to provide a different entry replacement scheme to Treynor-Wong, thereby customizing the system to suit the users needs.

Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Treynor in view of Wong in view of Huberman et al. (USPN 6,085,216) (hereinafter Huberman).

11. Treynor-Wong disclose the invention substantively as described in claim 13. Treynor-Wong do not specifically disclose the replacement manger determines whether the element should be in the cache by whether the element is likely or unlikely to be

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needed. In analogous art, Huberman discloses another cache management system (col. 18, lines 38-40) which discloses determining whether the element should reside in the component cache (i.e. allocate space within the cache) by determining whether the element is likely or unlikely to be needed (i.e. based on previous collected statistics, the expected value and variance for each element can be estimated, and using these values, the cache can be efficiently allocated, such as deleting those entries which will not be accessed, and keeping those which are likely to be accessed) (col. 18, lines 38-54; col. 19, lines 40-58). It would have been obvious to one of ordinary skill in the art to combine the teaching of Huberman with Treynor and Wong in order to provide a different entry replacement scheme to Treynor-Wong, thereby customizing the system to suit the users needs.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 21-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Malkin et al. (USPN 6,085,193) (hereinafter Malkin).

1. Referring to claim 21, Malkin discloses a web page delivery system for dynamically generating a web page having at least one content element, the delivery system comprising:

a web/app server (proxy server) operative to receive a web page request from a user and to generate a web page and to deliver the web page to the user (col. 4, lines 45-55);

a preloader operative to receive a content element retrieval request from the web/app server and to deliver the at least one content element to the web/app server, in response to receiving the content element retrieval request (col. 17, line 49 to col. 18, line 23 and Figure 11);

a profile server operative to receive a hint request (prefetch hint information, or PHI) from the preloader and to deliver a hint to the preloader (col. 8, line 38 to col. 9, line 10 and Figure 3A);

wherein the preloader comprises a component cache and maintains the at least one content element in the component cache and delivers the at least one content element to the web server, in response to a determination that the hint indicates that the at least one content element will be needed by the web/app server to generate the web page (col. 8, line 38 to col. 9, line 10 and Figure 3A).

2. Referring to claim 22, Malkin discloses the preloader is further operative to receive a content element insertion request from the web/app server (proxy server) and to service the request in response to receiving the content element insertion request (col. 9, lines 3-10).

3. Referring to claim 23, it is inherent that the system of Malkin comprises a cache manager operative to receive the content element retrieval request and the content element insertion request and to determine whether the at least one content element resides in the component cache because it allows objects requesting devices the knowledge if the content element resides in the cache memory.

4. Referring to claim 4, Malkin discloses comprising a secondary web/app server (proxy server) that is operative to send component insertion request to the cache manager (col. 17, lines 22-48 and Figure 10).

5. Referring to claim 25, Malkin discloses the preloader further comprises a cache replacement manager operative to control a replacement policy of the component cache (col. 8, lines 19-21; col. 16, lines 47-50).

6. Referring to claim 26, Malkin discloses a method for delivering a web page, the method comprising the steps of:

receiving a web page request, the web page request corresponding to a web page having at least one requested content element (col. 4, lines 45-55);

determining whether a tagged content element resides in a component cache, the tagged content element corresponding to the at least one requested content element (col. 6, lines 3-14);

generating a content response for each web page request, wherein the content response includes the tagged content element if the tagged content element resides in the component cache (Figure 11 and pertinent portions of the specification);

generating the requested content element if the tagged content element does not reside in the component cache (Figure 11, reference character 1125; col. 17, lines 59-65);

storing a content element node in the component cache, in response to a determination that the tagged content element does not reside in the component cache, the content element node corresponding to the generated content element (col. 9, lines 3-10); and

delivering the web page comprising the at least one requested content element (col. 3, lines 15-40).

7. Claim 27 is rejected for similar reasons as stated above.

8. Referring to claim 28, Malkin discloses generating a hint request (PHI) associated with the content element node, the hint request comprising the likelihood that the requested content element will be needed by a future web page request (col. 10, lines 16-52; col. 11, lines 26-28).

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9. Referring to claim 29, Malkin discloses receiving a hint response associated with the hint request, in response to the generation of the hint request (col. 8, line 56 to col. 9, line 10); and

making a cache replacement decision in response to receiving the hint response (col. 15, line 64 to col. 16, line 9 and Figure 8).

10. Referring to claim 30, Malkin discloses the decision indicates whether the requested content element should be maintained in the component cache (col. 15, line 64 to col. 16, line 9 and Figure 8).

11. Claim 31 is rejected for similar reasons as stated above.

Response to Arguments

12. Applicant's arguments filed December 15, 2006 have been fully considered but they are not persuasive.

13. In the remarks, Applicant argues, in substance, that (1) Treynor does not provide a next node data component which comprises node identifiers for all nodes reachable in one step from a current node, (2) Malkin does not disclose a profile server which receives a hint request and provides a hint response.

14. As to point (1), Applicant is incorrect. Applicant's will appreciate that the linked list in Treynor is a doubly-linked list. As seen in Figure 7, there is provided a section which stores node identifiers (i.e. pointers) to all the nodes reachable in one step (i.e. the previous node 219, and the next node 218). This can be construed as the claimed next node component since these nodes are a single step away (in the linked list). By this rationale, the rejection is maintained.

15. As to point (2) Makin discloses that the client request comes into the first level proxy, the PHI (i.e. hint information) is added, and so on up the list, and likewise the information is passed to other proxies as the information is passed down to the client. As such, the request from the client wherein the PHI is added can be construed as the hint request, since the content request inherently solicits information from the higher level proxy, since the PHI information is transferred back downstream to the requestor. As such, the higher level proxy can be construed as the claimed profile server since it receives a hint request and transmits a hint response downstream. Furthermore Applicant has not sufficiently defined what is meant by a "hint request" and a "hint response", and therefore this proxy server PHI information transfer clearly meets this limitation. By this rationale, the rejection is maintained.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph E. Avellino whose telephone number is (571) 272-3905. The examiner can normally be reached on Monday-Friday 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Joseph E. Avellino, Examiner
January 9, 2007



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